

## Two new *Otostigmi* from India (Myriop.).

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The two new species of *Otostigma* here described may readily be distinguished from the other known species of the genus bearing spines upon the prefemur of the anal legs by means of the following key. In this key only the more closely related forms are actually taken up; but it is constructed so as to eliminate all others.

- a. Dorsal plates margined from the 21st segment cephalad at least to the eighth.
- b. The three proximal articles of the antennae glabrous or nearly so.
- c. Ventral plates without true longitudinal sulci; at most with shallow furrows or pit-like depressions.
- d. Last ventral plate with the sides parallel and the caudal margin convexly rounded; ventral plates with eight impressions,
  - O. cuneiventris* Poc.
- dd. Last ventral plate with sides converging caudad and the caudal margin straight or incurved.
  - e. Prefemur of anal legs without a corner spine at distal end above; ventral plates with two median depressions, one caudad of the other ..... *O. ceylonicus* Haase
  - ee. Prefemur of anal legs with a well developed corner spine; ventral plates with a pair of depressions lying one each side of median line and a small median depression at caudal margin ..... *O. simplex* sp. nov.
- bb. Only the 2 1-3 to 2 1-2 proximal articles of the antennae glabrous.
- c. Dorsal plates, excepting at most the first seven, bearing from 7 to 9 longitudinal keels which are serrate or tuberculate.
- d. At most the first 7 pairs of legs with two tarsal spines, the others with 1, or 20th and 21st with none.
  - e. Articles of antennae 21; sulci of sternites weak, developed only on anterior 1-3 or 1-2 of plate; 20th legs with no tarsal spine.
    - O. scaber* Pocock.
  - ee. Articles of antennae 17; sulci of sternites strongly developed, crossing the entire plate; 20th legs with a tarsal spine.
    - O. amballae* sp. nov.
- dd. First 18 pairs of legs with two tarsal spines. Head and first dorsal plate chestnut, with the other dorsal plates bluish green ..... *O. insularis* Haase.

*Otostigmus amballae* sp. nov.

Dorsum brown, olive along middle part of caudal border and in a number of interrupted or broken longitudinal lines or streaks. Head and first dorsal plate somewhat paler than dorsum. Legs testaceous or yellowish; the posterior pairs distinctly ringed with bands of green.

Head shining; showing numerous fine punctae with fewer coarse ones intermixed.

Antennae composed of 17 articles of which the first two are practically glabrous and the third one similarly so at proximal end.

Dorsal plates from the third to the penult inclusive, longitudinally bisulcate, the sulci deep and completely crossing the plates. Plates from about the fifth caudad distinctly margined. All plates excepting the first two and the last one with a low median keel, one each side of this geminated by the sulcus, and two between the sulcus and the lateral margin, these more lateral keels being more or less broken and bearing inconspicuous tubercles along edges; keels most distinct on the caudal segments. First and second plates smooth. All plates punctate. Last plate simply bowed out caudad, the mesal portion of margin rounded, not angular; with a median longitudinal keel extending from the anterior margin caudad a little more than half the length, this keel being followed on the caudal portion of the plate by a conspicuous median furrow; lateral portions of plate smooth or nearly so.

Prosternal teeth 4 + 4; of these the most ectal is much the smallest and the second from mesal line much the largest, the other two being of intermediate size; line of apices of teeth strongly convex; all teeth angular.

Ventral plates from the second to the penult inclusive, deeply longitudinally bisulcate; also with a wider and shallower median longitudinal furrow which is deepest in front of middle. Plates finely punctate and those of caudal half of body tuberculate; the tuberculation becoming more and more conspicuous caudad.

Last ventral plate narrowed caudad, with the sides convex and the caudad margin weakly concave. On caudal half with a distinct median longitudinal furrow which continues cephalad as a pair of finer and less distinct furrows.

Processes of coxopleurae rather long, extending caudad of ventral plate about two-thirds the length of the latter; terminating in four spines or points, and also with a fifth spine on coxopleural margin near caudoectal corner.

At least the first three pairs of legs with two tarsal spines, the others, or all but a few succeeding these, to the twentieth inclusive, with one tarsal spine.

Prefemur of anal legs armed ventrally with an ectal series of 3 spines and a mesal one of 2; in addition with a strictly mesal series of 3 spines increasing in size distad, and along dorsomesal surface a series also of 3 spines, the distal one of the latter being the corner spine at end of joint. Other articles unarmed and smooth.

Length, 38 mm.

*Locality*.—Amballa, India (Rev. M. M. Carleton coll., 1873). The type is in the Mus. of Comp. Zoology at Cambridge.

*Otostigmus simplex* sp. nov.

Type specimens at present much bleached from long preservation so that original coloration cannot be definitely ascertained. At present they are brownish, with a pale median longitudinal stripe. Legs yellowish.

Head finely and sub-densely punctate, the punctae being more sparse in the frontal region. A weak median longitudinal furrow midway between sulcus and caudal margin and a more sulciform impression from anterior margin a short distance caudad.

Antennae composed of 18 articles of which the first three are glabrous.

Dorsal plates from the fourth to the penult longitudinally bisulcate. Plates from the 7th or 8th caudad distinctly laterally margined. Finely punctate, but otherwise very smooth, showing no carinae, or at most on some of the caudal plates with a median one obscurely set off by 2 faint longitudinal furrows.

Last dorsal plate with caudal extension sub-triangular, the lateral portions straight or nearly so from corners to median line, the median angle narrowly rounded.

Prosternal teeth 5 + 5; all teeth well rounded and the more mesal ones appearing as mere crenations in the dental plate, the ectal ones better separated and more angular. Process of femuroid of prehensors large; with a single rounded crenulation or tooth on ectal side and two on the mesal.

Ventral plates all finely punctate. Wholly lacking true sulci; but each with a broad longitudinal depression or furrow on each side which does not reach either the anterior or the posterior margin; in addition there is a much smaller median foveola or depression immediately in front of the caudal margin.

Last ventral plate narrowed caudad, the converging sides straight, excepting at ends, where they are convex, caudal margin distinctly incurved. Convex, smooth and without furrows, excepting for a median longitudinal one over the caudal third of length.

Coxopleurae produced beyond the last ventral plate two-thirds to

three-fourths the length of the latter; process terminating in 3 points or spines and with a lateral spine on the ectal margin.

Between 7 and 12 first pairs of legs with the tarsi bearing 2 spines, the others with a single tarsal spine, excepting the penult and anal pairs which have none.

Prefemur of anal legs with a row of 3 strictly ventral spines; along mesoventral edge with a series of 3 spines; and along mesodorsal edge with a third series also of 3 spines, the distal one of the last mentioned being at the corner; the median spine in each series largest. Other joints wholly smooth.

Length, 50 to 55 mm.

*Locality*.—Not definitely known; but probably India. It is certainly from the Eastern Hemisphere, as shown by the presence of spines on the anal legs. The type specimens are in the Mus. of Comp. Zoology at Cambridge.

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## Studies Amongst the Coccinellidae, No. 5 (Col.).

### A New and Interesting Species.

By F. W. NUNENMACHER, Piedmont, California.

#### *Coccinella bridwelli* n. sp.

*Color*.—Shining black throughout, except two small irregular triangular spots on head, anterior angles of pronotum broadly yellow, and the meso-episternum which is whitish yellow. *Form*.—Broadly oval. *Head*.—Finely and shallowly punctured. *Pronotum*.—Finely, closely and more deeply punctured than the head. *Elytra*.—Not so closely punctured, but otherwise punctured, the same as the pronotum. *Ventral surface*.—A little more coarsely punctured than the elytra.

♂ last ventral segment with large irregular fovea.

*Length*.—♂ 5.50 mm. ♀ 6 mm. *Width*.—♂ 4.5 mm. ♀ 4.50 mm.

*Type*.—♂ ♀ in my collection (and 4 cotypes in Mr. J. C. Bridwell's collection).

*Type locality*.—Tahquitz valley, San Jacinto Mts., Cal. VII. 17, 1912 (Bridwell).

This pretty species belongs to the *transversoguttata* group on account of its spotted head. I take great pleasure in naming this species for its discoverer, Mr. J. C. Bridwell.